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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,258

03/28/2006

Angelo Beati

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Davidson, Davidson & Kappel, LLC  
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EXAMINER

PALABRICA, RICARDO J

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,258	<b>Applicant(s)</b> BEATI ET AL.	
	<b>Examiner</b> Rick Palabrica	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13, 16-22 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13, 16-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 13, 16, 17, 20-22, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Gallacher (U.S. 5,625,657).

Gallacher discloses a PWR nuclear fuel assembly (see Figs. 1-5) comprising: a) nuclear fuel rods 16; b) support skeleton having two nozzles 12, 26; c) guide tubes 14; d) spacer grids 18.

Applicant's claim language, "lattice reinforcing device", reads on flat strips 54 that form the outermost walls of repair grid 50 (e.g., see Fig. 4a and col. 4, lines 54+).

Note, for example, in Fig. 5a, that the fuel rods are disposed in an array having a peripheral layer constituting a closed loop and an adjacent layer constituting a closed loop and surrounded by the peripheral layer.

Note also, for example, the embodiment shown in Fig. 5B wherein said lattice reinforcing device (i.e., the outermost walls of repair grid 50): a) is disposed between two spacer grids and secured to the guide tubes through the connections of the elements inside said walls (e.g., 38, 38', 44, ..) to said guide tubes; b) does not extend

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between the fuel rods of the peripheral layer and between the fuel rods of the adjacent layer,

Note, further for example, in Fig. 4a, that flat strips 54: a) do not have an arrangement for mixing a cooling fluid that is to flow through the nuclear fuel assembly; and b) do not have an arrangement for holding nuclear fuel rods.

The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. For example, “for receiving control rods”, “for receiving guide tubes”, etc. These clauses, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The system in the cited reference is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that it is sufficient to show that said capability exists, which is the case for the cited reference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18, 19, 24, 25, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallacher.

Damage due to fretting failures of a nuclear fuel rod can occur in any and all possible positions of the rods or groups of rods within a single fuel assembly. Thus, the repair apparatus in Gallacher can assume any and all possible configurations consistent with the configuration of the damaged rods or rod groups to be repaired. Note also the following statement in Gallacher regarding the plurality of possible configurations of the repair apparatus:

*"Although the repair grids shown in FIGS. 4A, 4B, 4C and 4D are for the particular spacer design shown in FIGS. 1-3, any repair grid which substantially duplicates the spacer cells of a damaged spacer may be used according to the method of the present invention to repair the damaged spacer and provide support to the affected fuel rod(s). Thus, the repair grid design could comprise a square, rectangular or other shaped section of an existing spacer having spacer cells of any regular or irregular polygonal shape through which the fuel rods extend." Underlining provided. See paragraph bridging cols. 4 and 5.*

Where there is damage to fuel rods in an assembly, not including the two outermost peripheral rods, which requires, for example, eight square repair apparatus disposed laterally contiguous to each other, this configuration reads on the claims. Note in this case that: a) there are two crossed plates secured to one another within the assembly; b) these plates define cells that are capable of being used for receiving guide tubes and fuel rods.

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As to claims 19, 25 and 30 and the limitation, “wherein the cells for receiving fuel rods are of dimensions greater than the dimensions of the fuel rods so as to receive the fuel rods with clearance, note, for example, in Fig. 4a, that the area of the space defined by the outermost walls of repair grid 50 is greater than the diameter of a single fuel rod.

Also the specification states:

*“[t]he plates 23 do not have any arrangement for holding the rods 3, and as a result the cells 27 are of dimensions that are greater than the dimensions of the rods 3, thereby surrounding them with clearance.” Underlining provided. See page 8 of the Specification.*

The outermost walls of Gallacher’s repair grid 50 do not have an arrangement for holding the rods and therefore meets said limitation.

### **Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B and C further illustrate prior art.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick Palabrica/  
Primary Examiner, Art Unit 3663

March 4, 2009